

12. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the plate member absorbs kinetic energy during a collision without causing a peak moment greater than 510 Nm.

14 (Amended) The impact reduction vehicle bumper system according to claim 13, wherein the vehicle front bumper is mountable on a vehicle.

**REMARKS**

Claims 1-14 are pending. By this Amendment, the Specification and claims 1-4, 9, 11-12, and 14 are amended. No new matter is presented.

**Information Disclosure Statement**

The listing of the "EEVC Working Group 17 Report" in the Specification is objected to for not being a proper Information Disclosure Statement under 37 CFR 1.98(b). The Office Action indicates that unless the reference has been cited by the Examiner on form PTO-892m the reference was not considered. Accordingly, Applicants enclose herein an Information Disclosure Statement submitting the "EEVC Working Group 17 Report" for consideration by the Examiner. A form PTO-1449 is also enclosed for the Examiner's initial indicating consideration of the reference.

**Oath/Declaration**

The oath/declaration is objected to for being defective as the signature of the first inventor (i.e., Duane Detwiler) is not in permanent ink, or its equivalent in quality. Accordingly, enclosed herein is a new oath/declaration signed and dated by the first inventor in permanent ink or its equivalent. The new oath/declaration identifies the application by the application number and filing date as required.

Drawings

The drawings are objected under 37 CFR 1.83(a) for not showing every feature recited by the pending claims. As the objectionable features have been cancelled from the pending claims, Applicants respectfully submit the objection is rendered moot and should be withdrawn.

Specification

The Specification is objected to for incorporating subject matter by reference to the "EEVC Working Group 17 Report." The objectionable subject matter has been deleted from the Specification by amendment herein, thereby rendering the objection moot. Accordingly, Applicants respectfully request the objection be withdrawn.

The Specification is objected to for informalities in paragraphs [0024] and [0026]. The Specification has been amended responsive to the objection. Applicants respectfully request withdrawal of the objection.

35 U.S.C. § 112, 2nd Paragraph

Claims 1-14 are rejected under 35 U.S.C. § 112, second paragraph. The claims have been amended responsive to the rejection. Withdrawal of the rejection is respectfully requested.

Claims 1-14 Define Patentable Subject Matter

Claims 1, 6, and 11-14 are rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent Number 5,100,189 to Futamata et al. (hereinafter "Futamata"). Applicants respectfully traverse the rejection.

Pending claim 1 of the application recites an impact reduction vehicle bumper system including <sup>12</sup>at least two frame rails, with at least two <sup>10</sup>brackets coupled respectively

to the at least two frame rails. A beam is attached to the at least two brackets and a plate member is attached to the beam. At least two frame rail extensions are coupled to the at least two brackets. Each bracket of the at least two brackets is disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam. See Figures 2-3 and 5 for an illustration of the emphasized feature.

Futamata does not disclose or suggest each bracket of the at least two brackets being disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam. Rather, Futamata clearly discloses the bracket 5 being disposed on or offset from a top side of the frame rail 1 and intermediate the ends of the beam 6. See Figures 3-4 of Futamata.

To qualify as prior art under 35 U.S.C. § 102, a single reference must teach, i.e., identically describe, each feature of a rejected claim. As explained above, Futamata does not disclose or suggest each and every feature of pending claim 1. Therefore, pending claim 1 is not anticipated by or rendered obvious in view of Futamata. Accordingly, claim 1 should be deemed allowable.

Claims 2-14 depend from claim 1. It is respectfully submitted that these thirteen claims be deemed allowable for the at least the same reasons as claim 1, as well as for the additional subject matter recited therein. Applicants respectfully request withdrawal of the rejection.

Claims 1, 6, and 11-14 are rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent Number 6,398,275 to Hartel et al. (hereinafter "Hartel"). Applicants respectfully traverse the rejection.

Pending claim 1 of the application recites an impact reduction vehicle bumper system including at least two frame rails, with at least two brackets coupled respectively to the at least two frame rails. A beam is attached to the at least two brackets and a plate member is attached to the beam. At least two frame rail extensions are coupled to the at least two brackets. Each bracket of the at least two brackets is disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam. See Figures 2-3 and 5 for an illustration of the emphasized feature.

Hartel does not disclose or suggest each bracket of the at least two brackets being disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam. Rather, Hartel clearly discloses the bracket 2 being disposed and intermediate the ends of the beam 7. See Figures 1-2 of Hartel.

To qualify as prior art under 35 U.S.C. § 102, a single reference must teach, i.e., identically describe, each feature of a rejected claim. As explained above, Hartel does not disclose or suggest each and every feature of pending claim 1. Therefore, pending claim 1 is not anticipated by or rendered obvious in view of Hartel. Accordingly, claim 1 should be deemed allowable.

Claims 2-14 depend from claim 1. It is respectfully submitted that these thirteen claims be deemed allowable for the at least the same reasons as claim 1, as well as for the additional subject matter recited therein. Applicants respectfully request withdrawal of the rejection.

Claims 1, 6, and 11-14 are rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent Number 5,803,514 to Shibuya et al. (hereinafter "Shibuya"). Applicants respectfully traverse the rejection.

Pending claim 1 of the application recites an impact reduction vehicle bumper system including at least two frame rails, with at least two brackets coupled respectively to the at least two frame rails. A beam is attached to the at least two brackets and a plate member is attached to the beam. At least two frame rail extensions are coupled to the at least two brackets. Each bracket of the at least two brackets is disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam. See Figures 2-3 and 5 for an illustration of the emphasized feature.

Shibuya does not disclose or suggest each bracket of the at least two brackets being disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam. Rather, Shibuya clearly discloses the bracket 3, 45 being disposed intermediate the ends of the beam 5. See Figure 3 of Shibuya.

To qualify as prior art under 35 U.S.C. § 102, a single reference must teach, i.e., identically describe, each feature of a rejected claim. As explained above, Shibuya does not disclose or suggest each and every feature of pending claim 1. Therefore, pending claim 1 is not anticipated by or rendered obvious in view of Shibuya. Accordingly, claim 1 should be deemed allowable.

Claims 2-14 depend from claim 1. It is respectfully submitted that these thirteen claims be deemed allowable for the at least the same reasons as claim 1, as well as for

the additional subject matter recited therein. Applicants respectfully request withdrawal of the rejection.

Claims 2-5 are rejected under 35 U.S.C. § 103(a) as being anticipated by Hartel, as applied to claim 1 above, and further in view of the well known prior art. Applicants respectfully traverse the rejection.

Hartel is discussed above. The Office Action admits that Hartel does not disclose the plate member, beam, brackets, and frame rail extensions being made specifically of steel. Accordingly, the Office Action states that making bumpers out of steel is well known in the art and that it would have been obvious to one of ordinary skill in the art to make the Hartel components out of steel.

Applicants respectfully submit that the applied "well known prior art" is not identified for providing features that overcome the above-described deficiency in Hartel, that is, Hartel's failure to disclose or suggest each bracket of the at least two brackets being disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam.

To establish *prima facie* obviousness of a claimed invention, all of the features recited by the rejected claim must be taught or suggested by the applied art of record. See M.P.E.P. § 2143.03. Applicants respectfully submit that Hartel and the "well known prior art," either alone or in combination, do not teach or suggest each and every feature recited by pending claims 2-5. Accordingly, Applicants respectfully submit claims 2-5 are not rendered obvious in view of Hartel and the "Well known prior art" and should be deemed allowable for their dependency on allowable claim 1, as well as the additional subject matter recited therein. Withdrawal of the rejection is respectfully requested.

Claims 7-8 are rejected under 35 U.S.C. § 103(a) as being anticipated by Hartel, as applied to claim 1 above, and further in view of United States Patent Number 4,422,680 to Goupy. Applicants respectfully traverse the rejection.

Hartel is discussed above. Goupy does not disclose or suggest each bracket of at least two brackets being disposed between a first end of a corresponding frame rail of at least two frame rails and either one of a first end and a second end of the beam. See Figure 1 of Goupy. Put simply, Goupy does not overcome the above-described drawback of Hartel.

To establish *prima facie* obviousness of a claimed invention, all of the features recited by the rejected claim must be taught or suggested by the applied art of record. See M.P.E.P. § 2143.03. Applicants respectfully submit that Hartel and Goupy, either alone or in combination, do not teach or suggest each and every feature recited by pending claims 7-8. Accordingly, Applicants respectfully submit claims 7-8 are not rendered obvious in view of Hartel and Goupy and should be deemed allowable for their dependency on allowable claim 1, as well as the additional subject matter recited therein. Withdrawal of the rejection is respectfully requested.

#### Conclusion

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding objections and rejections, allowance of claims 1-14, and the prompt issuance of a Notice of Allowability are respectfully solicited.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing docket number 105450-00009.**

Respectfully submitted,  
**ARENT FOX KINTNER PLOTKIN & KAHN PLLC**



Murat Ozgu  
Attorney for Applicants  
Registration No. 44,275

Enclosures: Information Disclosure Statement  
Form PTO -1449  
Declaration/Oath  
Marked Up Version of Specification as Amended  
Marked Up Version of Claims 1-4, 9, 11-12, and 14 as Amended  
Petition for Extension of Time (1 month)  
Check No. 351982 & 351984

1050 Connecticut Avenue, NW, Suite 400  
Washington, DC 20036-5339  
Telephone: (202) 857-6000

CMM:MO



**Marked Up Version of Specification as Amended**

**IN THE SPECIFICATION:**

Please amend paragraphs [0004], [0024], and [0026] of the Specification as follows:

[0004] In order to address this global problem, the European Enhanced Vehicle-Safety Committee (EEVC) working group established test procedures for evaluating the safety performance of motor vehicles with respect to pedestrians [as set forth in the EEVC Working Group 17 Report dated December 1998, which is incorporated herein by reference]. These procedures include the evaluation of bumper systems.

[0024] During the flat barrier testing, the two-part box was shown to meet the target performance. In order to meet the target performance for the angled barrier testing, an inner extension 8c is added. The inner extension 8c is disposed vertically between the upper 8a and lower 8b extensions. In the preferred embodiment, the inner extension 8c provides a second stage of crush strength. In particular, the inner extension 8c further limits the angled barrier intrusion without adding to the flat barrier [G] peak floor G that was created by the two-part angled box structure. Thereby, the vehicle pedestrian safety bumper system 2 is improved, while maintaining the target peak floor G when the bumper system 2 and the barrier impact.

[0026] According to the arrangement of the vehicle pedestrian safety bumper system or impact reduction system 2 of the present invention, an impact reduction zone is created. Forming the impact reduction zone on the SUV requires mounting at least two frame rails 12 on a vehicle body to provide a secure base for the impact reduction system. Securing at least two brackets 10 to the two frame rails 12 provides additional

structure for the attachment of the bumper beam 6. Providing the plate member or pedestrian safety plate 4 on the bumper beam 6 allows the impact reduction system 2 to meet the requirements for the alternative upper legform impactor to bumper test. As discussed above, this test is used to simulate the impact of a pedestrian's leg with a vehicle bumper in order to test the force between a pedestrian and the vehicle bumper. Coupling at least two frame rail extensions 8 to the brackets 10 limits [10] the amount of barrier intrusion for 5 mph flat and angled impacts. The arrangement of the vehicle pedestrian safety bumper system provides an impact force reduction zone.

**Marked Up Version of Claims 1-4, 9, 11-12, and 14 as Amended**

**IN THE CLAIMS:**

Please amend claims 1-4, 9, 11-12, and 14 as follows:

1. (Amended) An impact reduction vehicle bumper system, [for a vehicle for reducing the force upon impact with an object] comprising:

at least two frame rails [mounted on the vehicle body];

at least two brackets coupled respectively to the at least two frame rails;

a beam attached to the at least two brackets;

a plate member attached to the beam; and

at least two frame rail extensions coupled to the at least two brackets,

wherein each bracket of the at least two brackets is disposed between a first end of a corresponding frame rail of the at least two frame rails and either one of a first end and a second end of the beam.

2. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the plate member is composed of [mild] steel and is welded to the beam.

3. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the beam and brackets are composed of [high strength] steel and the beam is welded to the brackets.

4. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the frame rail extensions are composed of a [mild] steel and are welded to the brackets.

9. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the at least two frame rail extensions include an upper extension, a lower extension and an inner extension.

11. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the plate member absorbs kinetic energy during a collision without causing a peak force [of the object on the vehicle bumper system is less] greater than 7.5 kN.

12. (Amended) The impact reduction vehicle bumper system according to claim 1, wherein the plate member absorbs kinetic energy during a collision without causing a peak moment [of the object on the vehicle bumper system is less] greater than 510 Nm.

14 (Amended) The impact reduction vehicle bumper system according to claim 13, wherein the vehicle front bumper is [mounted] mountable on a vehicle [that meets ride height and fascia angle requirements for an alternative upper legform impactor test].